CUMSTON (C. G.)

The Urinary Troubles

Produced by

Prolapsus of Genital Organs.

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A CLINICAL LECTURE DELIVERED ON NOV. 9, 1895, BY
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GENTLEMEN:—We have this morning a patient that I am about to bring before you, whose case is most interesting in many respects. She has a prolapsus of the genital organs in its initial stage.

She is thirty-seven years of age and the mother of eight children. She has never miscarried and her general health has always been excellent, while after close questioning I can obtain no history of any uterine or tubo-ovarian lesions.

The reason that our patient comes to us today is for our opinion regarding a *sensation of bearing down* in the pelvis and a *dysuria*.

On examination, you notice that the anterior vaginal wall protrudes from the entrance of the genital canal, and I would particularly call your attention to the meatus, which has a decidedly upward direction.

Introducing the index finger into the vagina, I come on to the cervix at about four centimetres above the vulva. It presents a complete bilateral laceration, but is not hypertrophied.

The corpus uteri is found of normal size, the culs-de-sac are perfectly free, and nothing but normal tubes and ovaries are to be palpated. The uterus is very movable, too much so, by far, and is inclined to tip backward on the rectum.

This great relaxation of the vaginal walls and broad ligaments is in all probability due to the repeated labors, for remember the patient is but thirty-seven and has given birth to eight children at term.

In this case two symptoms are present, namely, bearing down pains in the pelvis and dysuria.

The prolapsus is only at its dèbut and can be remedied by a plastic operation on the vaginal walls, and at the same time an Emmet's operation on the cervix must be done.

The patient will be prepared for this surgical interference by antiseptic vaginal irrigations, followed by packing of the canal with steril gauze for about a week, after which I shall perform the operation.

The dysuria is a most important and neglected symptom of prolapsus,

and with your permission I will take up the remainder of the hour with some considerations regarding the urinary troubles which are produced by the condition presented in the case before us.

Prolapsus uteri is rarely primary and usually *follows* a prolapsus of the vaginal walls. Sometimes it is the anterior, as in the case which I have just shown you; at others it is the posterior vaginal wall or even both at the same time, which unfold themselves, so to speak, and by so doing draw upon the uterus on which they are attached.

When the broad ligaments are sufficiently solid and not relaxed, the uterus resists, for a time at least, the traction exercised on it by the relaxed vaginal walls, and will remain fairly well up. But little by little the cervix reaches the vulva, in which case you will often find it hypertrophied, while the fundus is normally situated in the pelvis.

The urinary troubles met with in these cases are the same as those occurring in prolapsus properly speaking.

As you know, vaginal prolapsus is produced by too frequent labors, rupture of the perineum, etc., or in neurasthenia, in which case you will probably find other viscera in a state of ptosis. There is another factor in the production of this affection which should also be remembered, and that is a permanent and exaggerated repletion of the bladder, a frequent occurrence in females, and which acts by pushing the uterus backwards, thus placing it in the axis of the vagina and facilitating its prolapsus.

In prolapsus of the vagina it is usually the anterior wall that first falls; the posterior (reposing on the perineal floor) is held in place when the latter is not ruptured. Prolapsus of the anterior wall is almost always followed by that of the posterior wall of the bladder, which explains the production of the urinary complications of which I am going to speak. But let me add that there are cases in which you will find the cervix at the vulva without there being any complication in urinating, as for example in cases of hypertrophy of the lower segment, as Schroeder has described.

As you probably know, this German gynæcologist divided the cervix into three sections, each of which may become separately hypertrophied. The lower segment, being situated entirely below the insertion of the vagina and having consequently no relation to the bladder, may be in a high degree of hypertrophy without giving rise to bladder symptoms. But other than in these rare cases urinary symptoms are most generally met with in utero-vaginal prolapsus.

When there is prolapsus, the urethra, instead of being directed from above downwards and from behind forwards, as it is in the normal condition, may present more or less pronounced inflexions, and forms a curve with the concavity uppermost and especially very flexed at the point where it traverses the sub-pubic ligament and Wilson's muscle.

This concavity of the urethra, which is just the opposite to the normal curve, is generally present in cystocele as in the patient just shown, and when you go to pass a catheter into these patients, the proximal end of the instrument must always be raised very high up in order to entirely empty the bladder, a thing which you will not always be able to accomplish.

That portion of the bladder which adheres to the upper part of the vaginal wall and to the lower part of the uterus is drawn down with these organs, and may thus present a true diverticulum, forming with the principal pouch a kind of *hour-glass bladder*.

In cases of hypertrophic elongation of the cervix, the increase in size of the neck of the womb compresses this vesical diverticulum to such an extent that its walls are pressed together and so firmly against the lower border of the pubis that the urine cannot enter the lower pouch; when it has been possible to make the catheter enter this secondary reservoir, which is most difficult to accomplish, only a very little urine or none at all will be withdrawn.

In other cases the urine will remain in the diverticulum during micturation, and by prolonged stagnation may set up a vesical catarrh, and which latter condition may be the means of formation of calculus, as I shall soon point out.

Beside the cases in which the bladder is either displaced or modified in shape, I must not neglect to mention others in which the relations of the bladder have become changed. Generally speaking the bladder, when drawn down by the uterus in prolapsus, retains its normal relations to the latter organ; but it may also happen that the uterus slides behind the bladder, which remains in its normal position, and there consequently is a change in the relations of the two organs which you must always have before your minds in order to avoid injuring the bladder during surgical interference.

On account of the changes in shape and situation of the bladder, the ureters may also be compressed at their lower extremity, and if the compression is kept up, and is severe, dilatation of these canals, extending more or less high up may occur, with hydronephrosis as an ultimate result.

However, in such cases, which are infrequent, it is well to take into consideration the general health of the subject, which possibly may be the factor in the relaxation of the ligaments, which at the same time that it produces the prolapsus, also brought about a slight ptosis of the kidneys with a curve in the ureters, resulting in a consecutive hydronephrosis.

Whatever it may be, the compression of the ureters has been often sufficiently prolonged and serious enough to have caused uremia in some patients, and which was explained by the one fact of compression, as well as by a concomitant nephritis following the dilatation of the ureters.

According to Perré this dilatation

of the ureters and pelvis of the kidney is always present. The former are often abnormal from the beginning of the prolapsus, because they open in that part of the bladder which is just that one which is the first to enter into the formation of the hernia, and by their means, on account of the traction exercised on them, the kidneys are drawn down out of their normal situation.

As to the capacity of the bladder I desire to say a few words. The researches that have been made up to the present time have not given any very definite results. According to Perré and Barnes, the capacity of the bladder is always increased, while others, among whom I may mention Courty and de Sinety, believe that it is not changed, while some uphold that it is smaller than normal on account of atrophy of the organ.

In a case reported by Duplay and Chaput, in which an autopsy was made, the bladder contained one hundred and thirty grammes of urine. The same authorities found, out of twenty-eight cases, that eleven times the capacity was diminished and seventeen times increased; the increase of the vesical capacity often augmenting the prolapsus uteri.

These contradictory opinions in the evaluation of the bladder capacity are not to be wondered at when we recollect that "*the bladder has no anatomical capacity, but a physiological one*," as is most justly pointed out by Guyon, and consequently is as variable in women having a prolapsus as in those without it.

When the prolapsus is *complete* the vaginal wall hangs down between the thighs and soon becomes ulcerated. The ulcerations may extend to the bladder, and cases of perforation of this organ are reported. I would also mention the prolapsus of the mucous membrane of the urethra—in medical terms, urethrocele. This is formed by the dilatation of the urethra, while the bladder may remain intact, in which case a small sulcus is found between the anterior wall of the vagina and the urethra.

Cystocele and serious troubles in urinating due to prolapsus have often been reported, but there are cases in which they appear early and without cystitis, and Guyon insists on the fact that they are especially frequent in cases of *slight* prolapsus, giving rise to mistakes in diagnosis, especially so because the urinary troubles are not always in relation to the degree of the cystocele; a cystocele which is hardly apparent may sometimes give rise to very marked urinary troubles, as in the case I have shown you and two cases reported by Comar demonstrate.

Other than these infrequent cases a real cystocele is generally found in connection with a utero-vaginal prolapsus. Duplay and Chaput found it present in thirty-three out of thirty-seven cases of prolapsus.

Often the cystocele represents the first stage of the affection; at the same time as the vaginal invagination it precedes the falling of the womb instead of being a complication.

Usually the entire bladder does not

prolapse; it is first the lower wall that comes down. The organ is then the so-called hour-glass type; the upper part may not only extend above, but also behind the uterus, when this organ is sufficiently low down, while the remaining lower part of the bladder is drawn down by the vagina and descends, pulled in front of the cervix uteri by the upper wall. This lower pouch dilates and contributes to the increase of weight and inconvenience that these patients complain of in their pelvis, and you can readily understand that this dilatation may secondarily invade the ureters as I have already pointed out.

Cystocele is first noticed by frequent desire to pass water, the act being followed by painful sensations and vesical tenesmus. The patients will get into various positions to urinate and are sometimes obliged to directly press upon the hernia formed by the bladder in the vaginal canal in order to accomplish the act. Some writers consider these efforts and repeated irritations as the factors in the production of fungus growths and small polypi of the meatus, a typical example of which I showed the class last spring.

Cystitis of the fundus is produced by the stagnation of urine in the diverticuli of which I have spoken. The cystitis is accompanied by a thickening of the vesical walls and sometimes by fungus growths.

The symptoms are a frequent desire to urinate. The urine dribbles away over the parts bulging out of the orifice of the vagina when the prolapsus is total, and is the cause of the ulcerations on the mucous membrane of the vagina so frequently seen. The urine is cloudy and filamentous, sometimes with a very bad smell, and the vesical mucous membrane becomes the seat of a purulent secretion.

These cases are infrequent, as cystitis is not a common complication of prolapsus, and according to certain writers it is only found accompanying calculi.

The urine in cystitis contains a large quantity of the phosphates (for some authorities phosphoric gravel is most frequently met with in the female), while the difficulty of micturition in prolapsus, and stagnation of the urine in the fundus, favors the formation of phosphatic deposits.

Uric acid calculi are also to be met with in prolapsus. These deposits are without doubt as frequent in the female as in the male, but usually in the former they are passed per urethram before they have a chance of becoming fixed in the bladder, while in prolapsus they remain in the diverticulum and give rise to the formation of calculi. Ruysch has reported several cases of calculi in the diverticuli of the bladder, and Varnier mentions thirty cases occurring in cystocele.

As you see, vesical calculi, although not frequent, are certainly not rare, and I particularly wished to bring this complication to your notice, for in so good and recent a treatise as *Keating and Coe*, no mention is even made of them.

You should also remember that in certain cases of genital prolapsus, a *general ptosis* is often found, which would lead you to suspect a *slow nutrition* of Bouchard, the phenomena of assimilation and desassimilation are no longer in full sway and uric acid gravel appears.

Pollakuria is frequent in prolapsus uteri. When the uterus has attained a certain degree of prolapsus all its weight is borne by the neck of the bladder, in which case the patients experience a continual desire to pass water, but which is not satisfied by the act, because the reflex cause still persists.

The patients repeat the effort again and again, and this continual straining finally results in a painful tenesmus so often seen in these cases.

This cause of pollakuria appears to be the true one if you will consider the characters that it has. Now the frequent necessity to micturate, which takes place when the patients stand or walk, disappears under the influence of repose and the horizontal position. To bring on the desire to empty the bladder in these patients, fatigue or jarring of a carriage is not necessary as in cases of stone; the simple upright position is alone sufficient, and the pollakuria usually disappears entirely when the patient lies down or even sits in a chair.

The pollakuria often becomes painful after a time, especially after vesical tenesmus is present, but the pain and frequent micturition may also be due to a passive congestion of the bladder, caused by the displacement of the organ. Pollakuria may also be produced by uric acid gravel.

Dysuria is easily accounted for by the faulty position of the bladder and uterus. It may also be characterized by the efforts that the patient is obliged to make in order to expel the few drops of urine that come away. It is also characterized by pains, that the patients complain of at the meatus and urethra, and which are explained as burning, pricking, lancing sensations, although the most careful examination fails to show any cystitis or even urethrocele.

Cystalgia is often met with in combination with dysuria, and is especially interesting from the fact that it constitutes one of these *early* forms of urinary troubles accompanying prolapsus uteri.

It is produced by a prolapsus which is often hardly visible and it may form the only diagnostic element; it appears with functional symptoms of cystitis, the bladder being void of any sign of inflammation and the urine free from any pathological change.

The pain first comes on in an indistinct fashion; then it increases in time, becomes exaggerated by the erect position, at first only being felt at the time of micturition, thus presenting the characters of frequency and pain that I have already described.

However, sometimes this cystalgia is not accompanied by pollakuria, and a most curious thing is that the pains, which are charactistic, may disappear during a time more or less long in spite of repeated fatigue while in other cases they persist, no

matter what treatment you may employ, and if you do not obtain and make a most careful examination and by a careful and complete interrogation of your patients, nothing will put you on the track of the real cause of this cystalgia. This I have seen done time and again by experienced practitioners, as the following case will illustrate.

A young married lady of twenty-one consulted me for pollakuria and inflammatory symptoms of the bladder. These symptoms had been treated before her marriage, about one year ago, by a gynæcologist in this city, by instillations of nitrate of silver, boracic acid, irrigations, etc., all to no avail.

The family physician being consulted, immediately and without examination diagnosed cystitis, and the unfortunate young woman was filled with all the new fluid extracts, with supposed power for overcoming inflammation of the bladder, in which the pharmacopoæ of the United States abounds.

All these preparations, excellent as they may possibly be, failed to give the patient any relief.

On examination I obtained a distinct history of a fall from a horse, some two years previously, with consecutive incomplete prolapsus of the uterus and anterior vaginal wall. The bladder symptoms were the only ones complained of by the patient. I performed an anterior colporrhaphy; the patient was out of bed in fifteen days and now enjoys life, all bladder symptoms having disappeared. The round ligaments were massed and toned by the faradic current, three séances a week, and the uterus came back to a nearly normal position, which was complete by the aid of a well-fitting pessary.

Incontinence of urine in prolapsus is sometimes a false incontinence by overdistension occuring when the bladder is too full; or in other cases, when there is at the same time a pollakuria, you have to do with another type of false incontinence, the bladder being able to retain the urine, but its excitability is exaggerated by the continual irritation to which it is subjected, either by congestion kept up by the prolapsus, or by the direct contact of the tumor formed by the prolapsed organs.

Other patients, fewer in number, have a real incontinence, which is spontaneous and occurring only when the subject assumes the erect position; others have a desire to pass water and are obliged to satisfy it at once or the urine will escape. Laughing, coughing, sneezing, will cause an involuntary expulsion of urine. The continual dribbling away of the urine produces itching, excoriations and ulcerations of which I have spoken and in some cases finally leads to the formation of vesico-vaginal fistulæ.

The deviation and traction on the urethra may also be the cause of incontinence.

Retention may also occur in prolapsus uteri or in cases presenting an hypertrophic elongation of the cervix. Sometimes it takes place suddenly, as for example when the prolapsus appears all at once under the influence of an effort, the cervical

portion of the uterus hits against the symphysis pubis and is followed by an instantaneous retention of the urine. The retention in other cases may be preceded by symptoms of vesical irritation with frequent desire to micturate.

You will occasionally meet with a voluntary retention on account of the pain caused by the passage of the urine, or by its contact with the excoriated vaginal mucous membrane. But, gentlemen, these cases are not frequent, and when they do occur the consequences are numerous, such as calculi on their increase in volume when they preëxist, urinary deposits form, becoming the starting point of a cystitis; and lastly, the cystocele which already exists is increased in size by the retained urine and may be followed by dilatation of the ureters with all the usual sequelæ.

Remember that in these cases the passage of the catheter is difficult and the reservoir cannot always be emptied.

When a cystocele is not evident and the prolapsus is only slightly pronounced, you will often only make your diagnosis, based on the urinary troubles that are present, and in this point of view the pollakuria is the most important of them all.

You must, however, be careful not to attribute all cases of frequent micturition to a genital prolapse, for the pollakuria can be a symptom of hysteria, and it is evident that if you find stigmates of this neurosis in your patient or the symptoms of severe neurasthenia, this subject will certainly be entitled to a pollakuria.

Diabetes must not be forgotten and its other symptoms searched for.

The genital organs must be carefully examined for the slightest degree of prolapsus, and, if found, demands surgical treatment.

Pessaries are of little or no use when the prolapsus is marked; they may be the means of preventing its increase, but they in no way diminish the urinary complications.

For obstinate cystocele, cystopexy has been proposed and performed, fixing the bladder to the anterior abdominal wall, but this operation has not given, as might be expected, the results hoped for, and in my opinion, hysteropexy followed by an anterior colporraphy is the operation of choice in these cases. I also believe that shortening the round ligaments (Alexander's operation) is decidely contra-indicated and is worse than useless in prolapsus uteri.

Hysteropexy and colporraphy are indicated in all cases of pronounced utero-vaginal prolapsus, but the question that is also to be considered is: Should an operation be performed for slight prolapsus?

I have pointed out to you that there may be serious urinary complications even in prolapse of slight degree; now these complications are of quite sufficient gravity for the operation, which is the only therapeutic measure that will be effectual.

Consequently in cases of slight prolapsus you should operate with the view of giving the bladder the support that it requires and which is obtained by a carefully performed colpoperineorrhaphy.